

ABSTRACT:

Introduction: The Hypertensive disorders of pregnancy account for 14% of all maternal deaths in developing regions and one among them being preeclampsia. The release of anti-angiogenic factors due to uteroplacental insufficiency is the major aetiological factor in developing preeclampsia. The relaxin insulin like peptide hormone has been documented to have pleiotropic molecular, physiological proangiogenic action exerting through the relaxin RXFP1 receptor.

Aim: To immunohistochemically study relaxin receptor expression in human term physiological and preeclamptic placenta.

Materials and Methods: In the present study 30 placental samples, 15 from pre-eclamptic and 15 from normal pregnancies were collected. Samples were stained by Hematoxylin & Eosin stain and special stains like, Periodic Acid Schiff and Masson's trichrome stain to study the placental histologic features. The placentae were histologically categorised as mild, moderate and severe. Immunohistochemistry for relaxin receptor expression intensity was done on the normal and preeclamptic placenta and analyzed.

Results: The placental samples were stained by Hematoxylin & Eosin stain and were histologically categorised as mild, moderate and severe. Immunohistochemistry for relaxin receptor expression intensity was done on the normal and preeclamptic placentae and analyzed. Normal placenta showed weak to moderate relaxin receptor staining intensity whereas preeclamptic placenta showed nil to weak relaxin receptor staining intensity. The association between different histological categories of preeclamptic placenta and signal intensity of the relaxin receptor expression was studied. Severe preeclamptic placenta showed nil expression and moderate preeclamptic placentae showed nil to weak expression. The amniotic epithelium of normal placenta showed strong intensity and preeclamptic placenta showed weak intensity.

Conclusion: This study's finding of nil to weak expression of relaxin receptor in preeclamptic placentae shows that hypoxia induced injury to placental bed results in the down regulation of the relaxin receptor expression. The therapeutic potential of relaxin in early gestational preeclampsia is still needs further evaluation.